

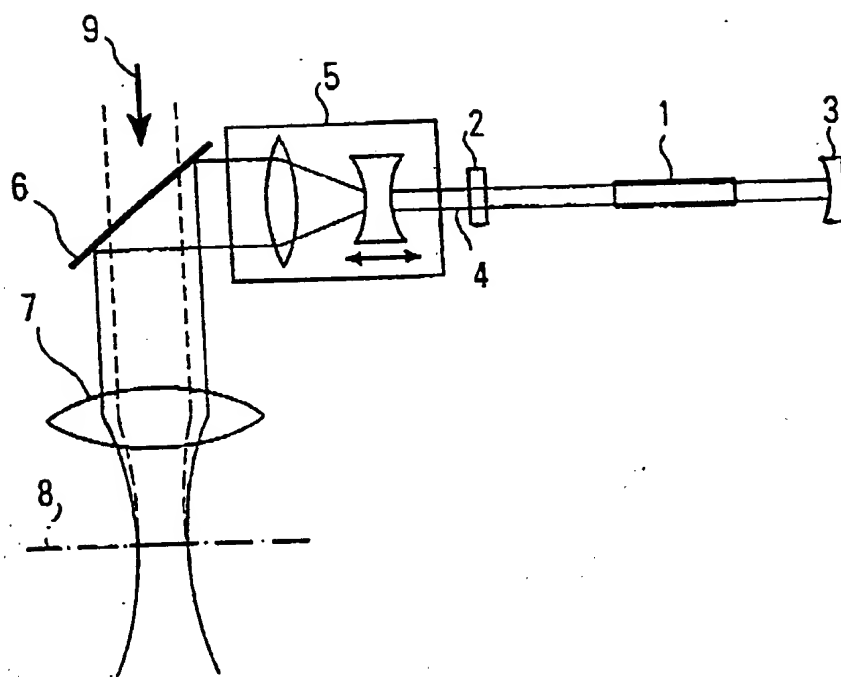
FIG.1

FIG.2a

Prior Art

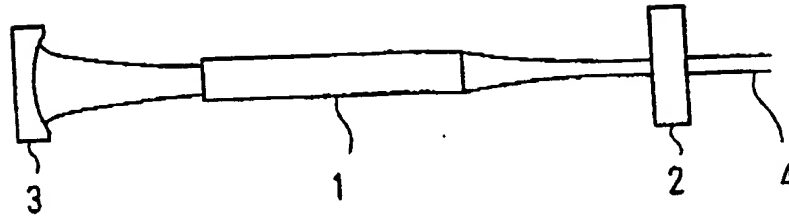
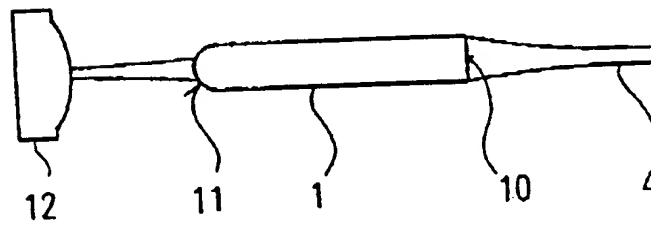
**FIG.2b****FIG.2c**

FIG.3

Initial pulse characteristics for a
"classic" resonator (prior art)
Simulation

Focusing lens: $f = 116$ mm
Distance Focusing lens-end of resonator: 285 mm
Resonator length: 325 mm
Rod length: 90 mm
Radius of curvature: rear mirror: see legend
Radius of curvature of output mirror: planar

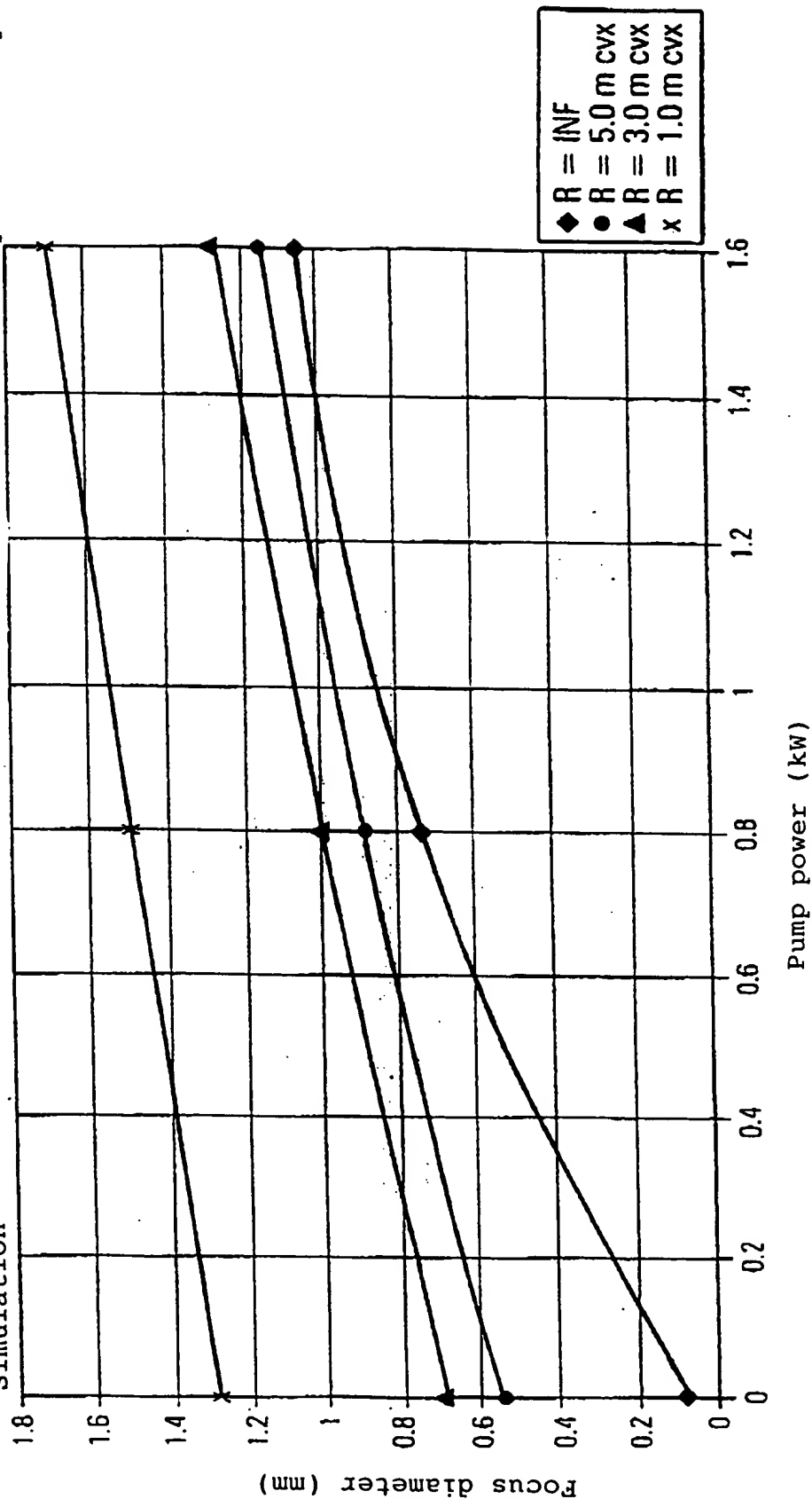
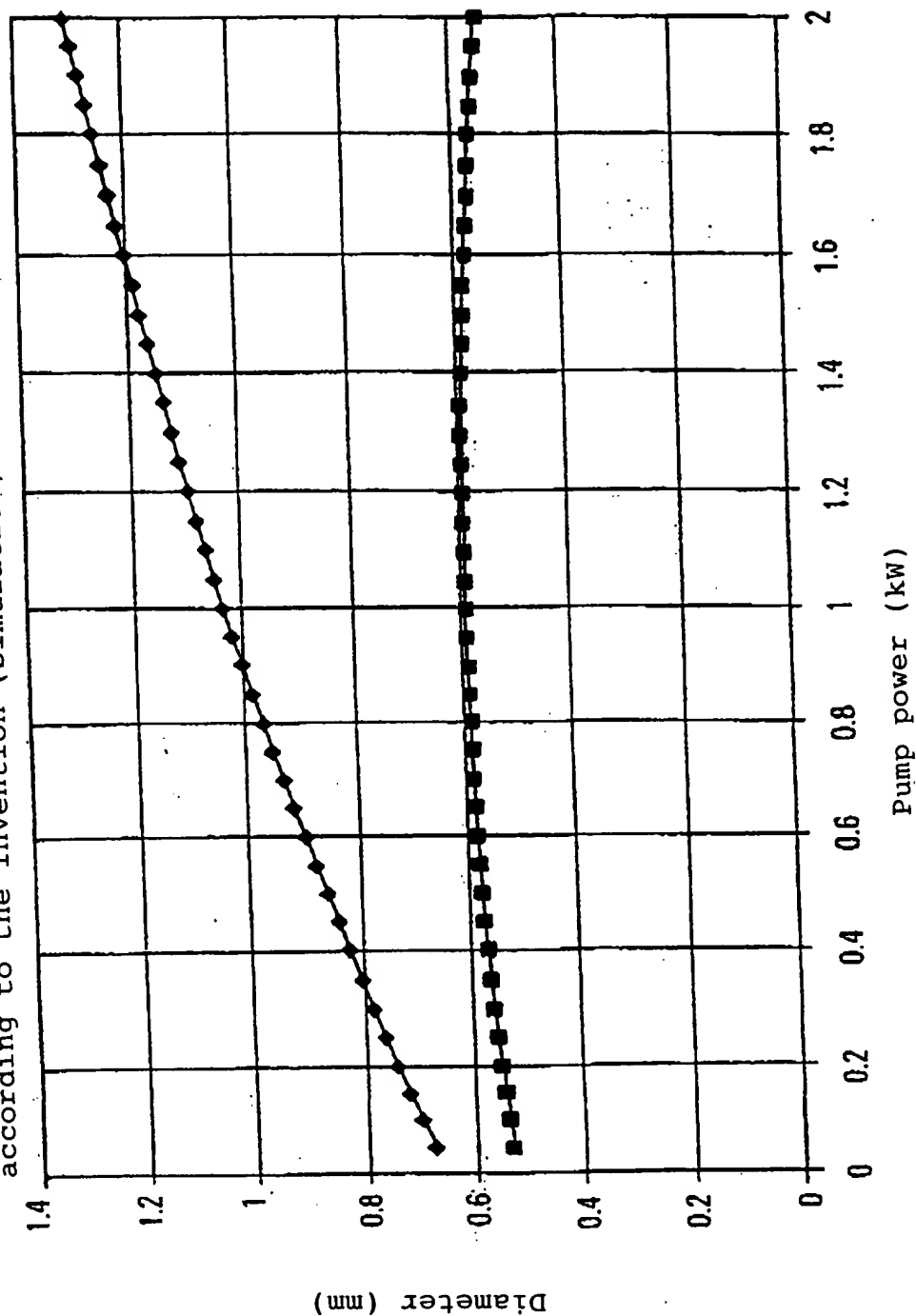


FIG.4

Comparison of a prior art resonator with a resonator according to the invention (Simulation)



Classic resonator
Sweet spot resonator

Measured with CCD camera
 Focusing lens: $f = 116$ mm
 $P_{max} = 1.5$ kW
 Distance Focusing lens-rod end: 450 mm
 Resonator length: 290 mm
 Rear mirror: $R = 0.1m$ (cvx)
 Rod curvature: 0.22m (cvx)
 Rod length: 90 mm

FIG.5

Sweet spot resonator according to the
 invention / Area initial pulse
 characteristics (measured values)

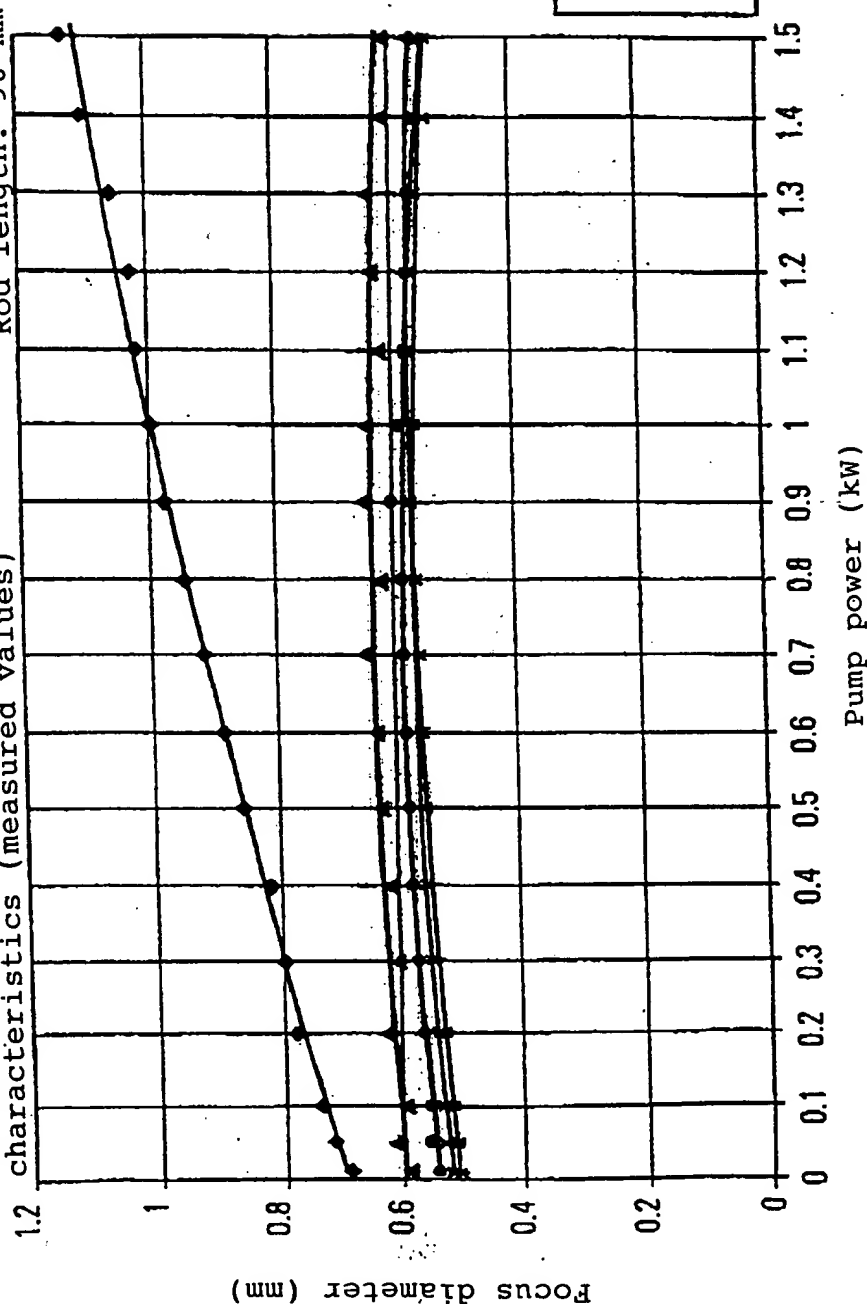
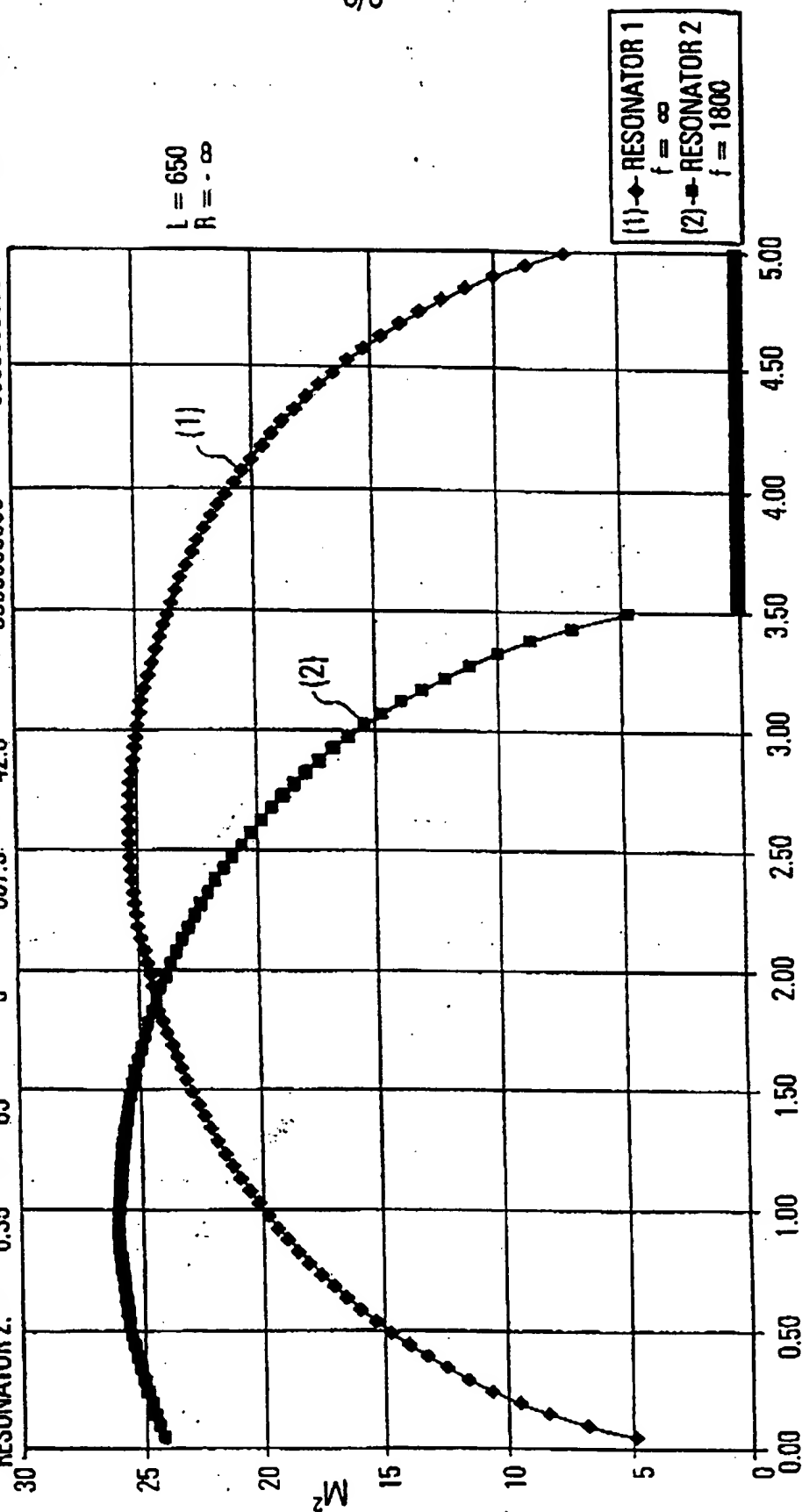


FIG. 6

Multi-mode output side: M²

RESONATOR 1:	6:35	85	3	D1 = 607.5'	D2 = 42.5	9999999999	AS = 9999999999	D3 = 0	f = 0
RESONATOR 2:	6:35	85	k = 3	607.5	42.5	RS = 9999999999	9999999999	565	1800



Pump power (kW)

Resonator with lens between rear mirror and rod (D3=0 and f=0 represents calculation without lens)